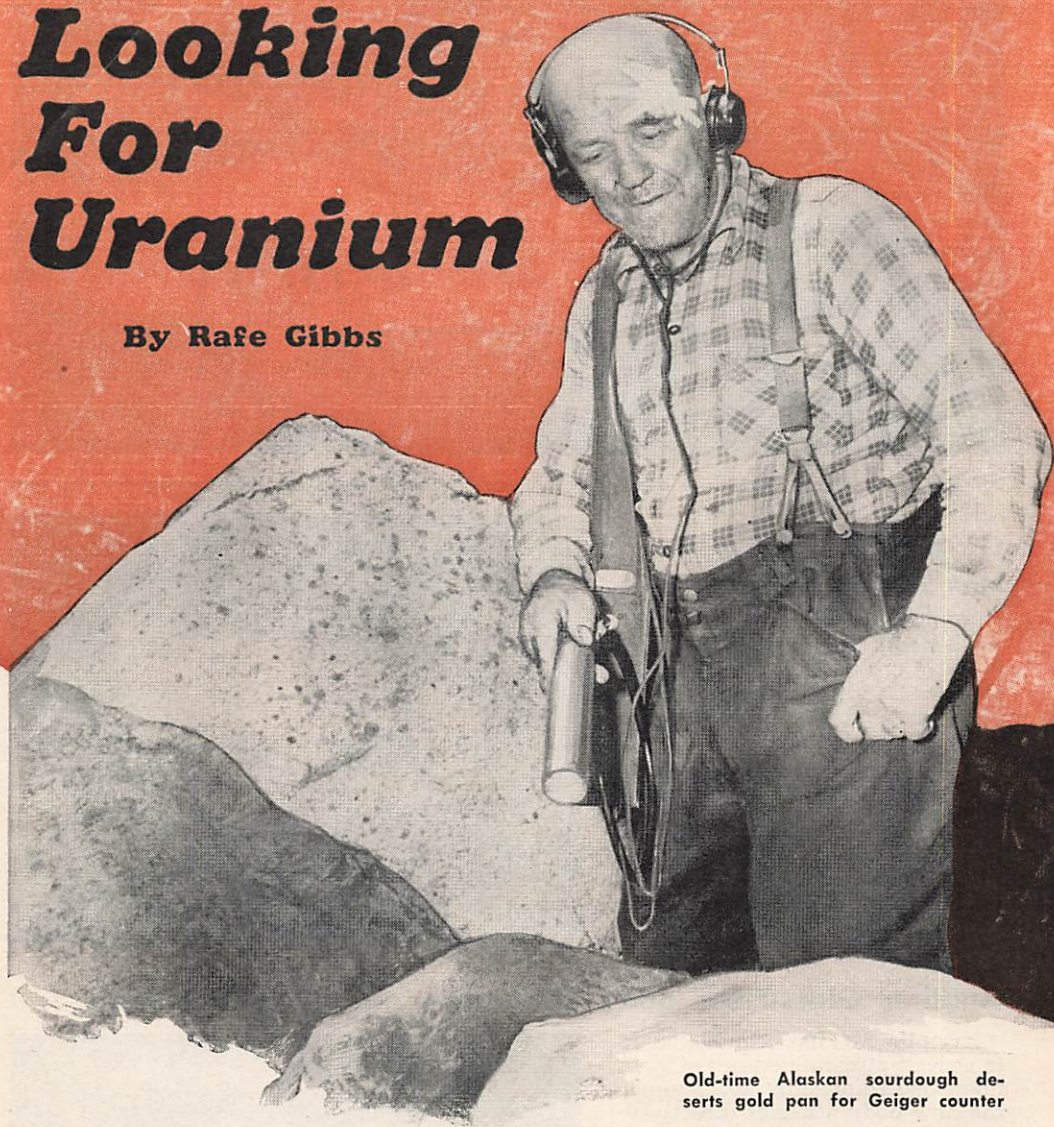


# Everybody's Looking For Uranium

By Rafe Gibbs



Old-time Alaskan sourdough deserts gold pan for Geiger counter

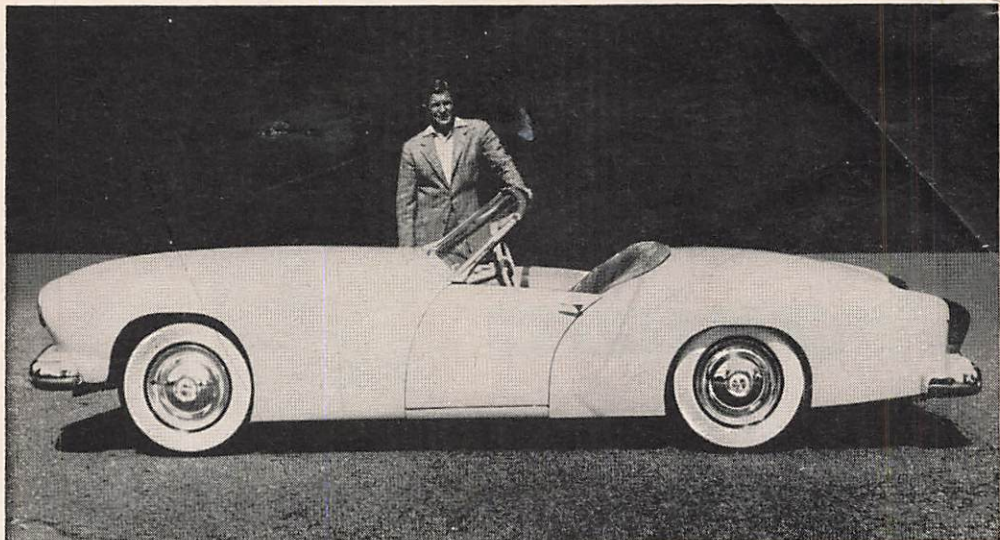
WITH BOBBED HAIR bouncing, a woman prods her horse down a craggy slope after a stray cow in the mountains beyond Leesburg, Idaho. The cow rejoins the herd. The horse is reined in for a rest. But the rider does not rest. She fumbles in her saddlebag for a metal box, then hops down and moves along the slope, holding the box like one witching for water. Cowgirl Elva Swanson is looking for uranium-bearing ore with her Geiger counter, that sensitive little instrument which detects any radioactive substance.

It's a quiet day in Monticello, Utah, nes-

tling high on the east slope of the Abajo Mountains. The sun is warm and beckoning. A man ought to be fishing on a day like this. Donald T. Adams, attorney and state senator, shifts his lean frame uneasily at the desk of his law office. Then, abruptly he gets to his feet, turns the key on the office door, climbs into his car and points it toward the wide-open spaces of San Juan County. Only Attorney Adams isn't going fishing. He's going uranium hunting.

Over in the rugged mountain country of Jefferson County, Mont., an airplane wings low through the blue V of a canyon. Stunt-





Built for Kaiser-Frazer, the Darrin body may forecast the plastic sports car K-F promised for this year

## Glass-Fiber Sports Car Has Sliding Doors

You'll never recognize the chassis beneath the long, low sports body of glass fiber designed by Howard Darrin. It's the little Henry J, dressed in luxury. Sliding doors eliminate the designer's concern for curb height. When the handle is turned, the door slides forward. There has been no commitment about production runs on this body, it being the only one of several plastic models that Kaiser-Frazer had commissioned to be built for the Henry J chassis.



## Another Glass-Fiber Body—It Mounts on the MG Chassis

Even the MG has been dolled up in a sleek, streamlined suit of glass fiber. Weighing only 107 pounds, the new body attaches directly to a standard MG chassis. The only major change involved is in the wheels—15-inch wheels are used on the plastic model to lower the car's appearance. Because it completely hides the MG "personality," the body will most likely start a violent controversy among MG owners. Bumper and windshield are easily detached for road racing. Fins run along the top of each rear fender. No changes were made in the instrument panel. The bodies are in limited production in California at present.





Mobile gamma-ray logging unit drops scintillation probe at left in deep drill holes in search of uranium  
Bogue Electric Mfg. Co. photo



ing? Not Kent Howard and Dick Peterson. They are out prospecting for uranium on the properties of the Elkhorn Mining Company. Their plane is equipped with a scintillometer, which might be classified as a super-Geiger counter. The scintillometer has a lead-covered directional shield containing a photoelectric cell. The shield eliminates airplane-instrument interference, and the cell picks up ground radiations from altitudes up to 1500 feet.

Assaying the sample scenes above, you get an idea of today's high-grade and steadily mounting interest in hunting the stuff of which atom bombs are made. Three years ago an old-time Colorado prospector told us: "This boom will fizzle out any day now when they don't find enough uranium in these parts to blast a hole big enough to bury a coyote." Today he is out in the desert himself, hopefully listening for the tick of a Geiger counter.

Shortly after World War II, the Atomic Energy Commission and the United States Geological Survey published a pocketbook entitled "Prospecting for Uranium" (obtainable from the superintendent of documents in Washington

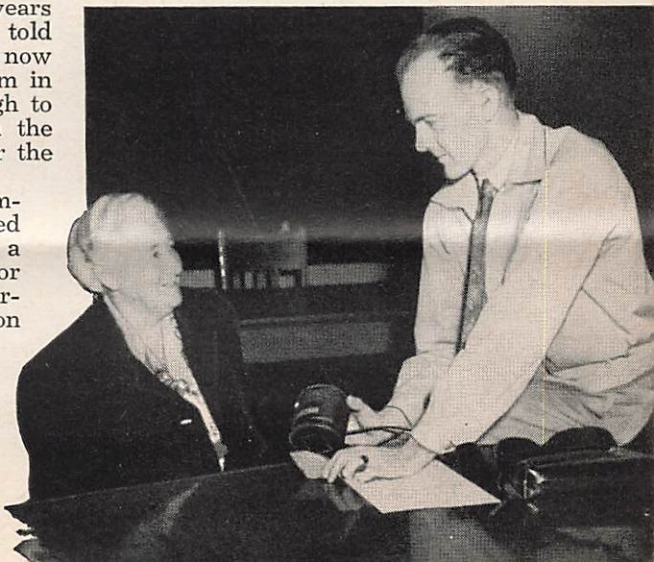
for 30 cents). Maybe its sales aren't in a class with the government's guide on child care, but to date about 100,000 copies have been sold.

Jesse C. Johnson, director of the AEC's raw-materials division, recently reported:

"There are probably more individual prospectors looking for uranium today than for any other metal."

Throughout the country, the AEC has set up laboratories for testing ore samples. The number of samples now processed runs about a thousand a month. Hundreds more

Kate Mullins, who has hunted for gold many years, learns about uranium prospecting from Prof. Lewis S. Prater, who is conducting an advanced class at the University of Idaho







Amateur uranium prospector (right), who operates a gas station, has an expert check his small samples

are checked monthly by state bureau of mines laboratories. And thousands more are gone over on the spot by prospectors who have studied well the chapter in the booklet on "Testing for Uranium."

How is the ore panning out? Well, everything that makes a Geiger counter tick isn't for the mill. But high-grade uranium deposits now have been found in such widely scattered parts of the United States as Florida, Tennessee, Kentucky, Michigan, Min-

nesota, Wisconsin and the Dakotas, with the major discoveries in the Far West. Mining operations are currently centered on the Colorado Plateau—130,000 square miles of gently level mountain tops and violent colors stretching into corners of Utah, New Mexico, Arizona and Colorado. In addition, there are the vein deposits of central Utah, and the uranium discovered in the Permian-phosphoria formations of Idaho, Montana and Wyoming.

In 1951, incentive bonuses for good-grade ore totaling more than \$250,000 went to Western uranium miners. Blair Burwell of Grand Junction, Colo., president of the Colorado Mining Association, commented:

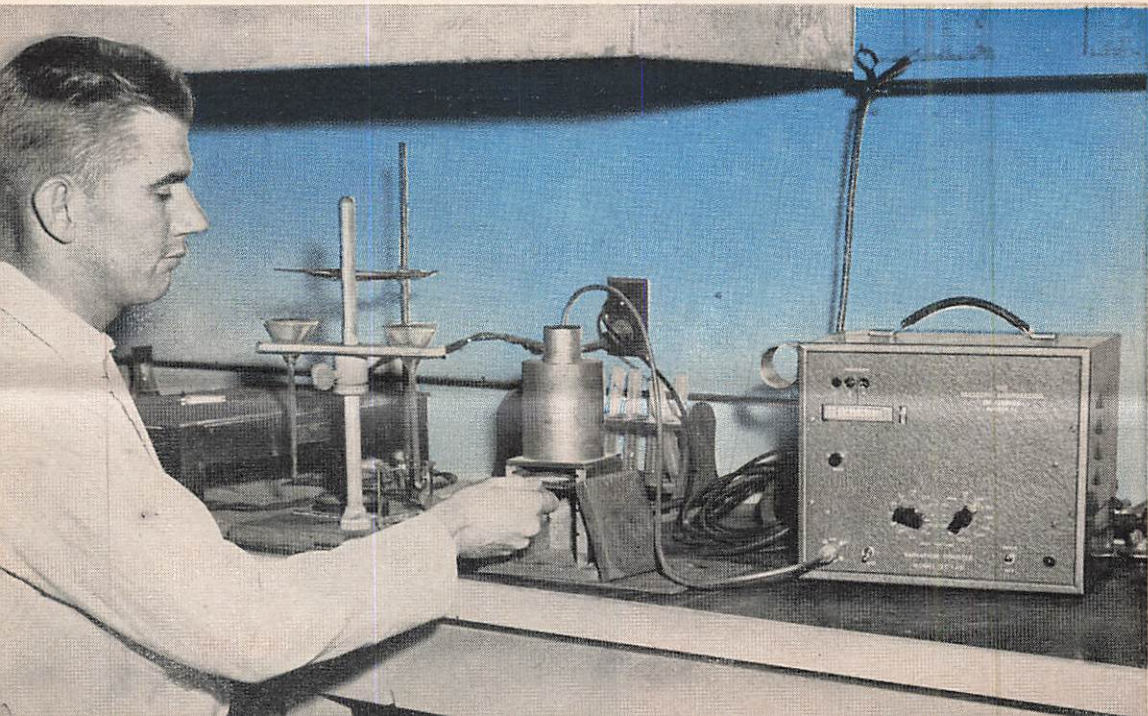
"Deposits in the Colorado Plateau alone give this country one of the greatest sources of uranium, if not the greatest, in all the world."

Burwell added that the Colorado Plateau contains three great uranium fields, with the possibility of a fourth. He pointed out that uranium production is now the state of Colorado's largest mining industry, with a payroll of \$1,500,000 to \$2,000,000 a month and a milling program for 1952 of \$7,000,000.

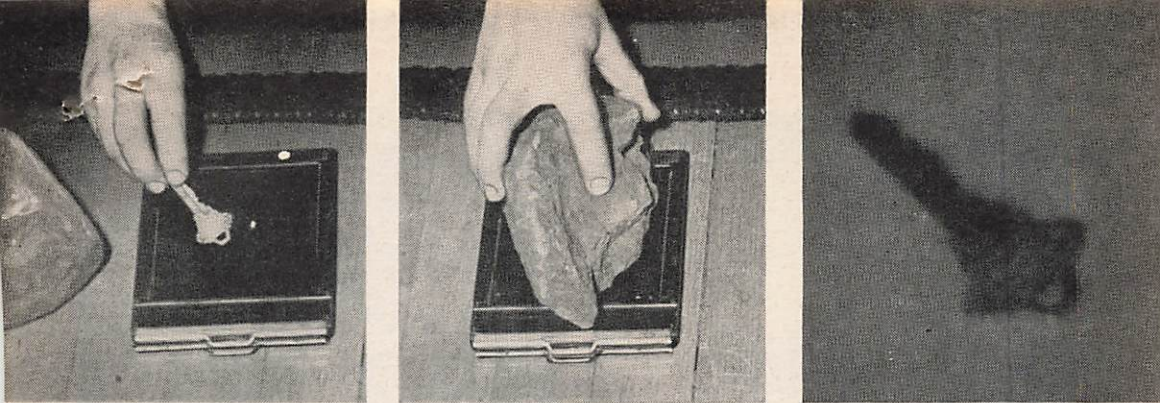
In Utah, mineral production—aided by new uranium finds—rose to \$244,800,000 in 1951 to become the state's number-one source of new wealth, greatly surpassing even manufacturing and agriculture.

The quantity of uranium is there. On the other hand, the government has not yet paid out the special \$10,000 bonus offered for the delivery of 40,000 pounds of very high grade uranium-bearing ore (20 percent or more of uranium oxide). None of

Rich uranium strike? Radiation-scaler machine in lab gives the answer in shielded test of powdered ore







In photographic test for radioactivity, key (left) is placed on unexposed plate. Then ore sample to be tested (center) is placed over the key. If sample contains uranium it will produce key image shown at right

the strikes in the United States—to date—compares in quality with the ore finds of the Shinkolobwe Mine in the Belgian Congo or the Eldorado on Great Bear Lake in northern Canada.

Recently we drove into Marysville, Utah, and every store window had samples of uranium-bearing ore found in the blazing mountains beyond the town. Even the service stations were cluttered with the stuff. When we told an operator to "fill 'er up," we were given uranium talk and gas in equal proportions.

New towns have been born, and others reincarnated. Ever heard of Hite, Utah?

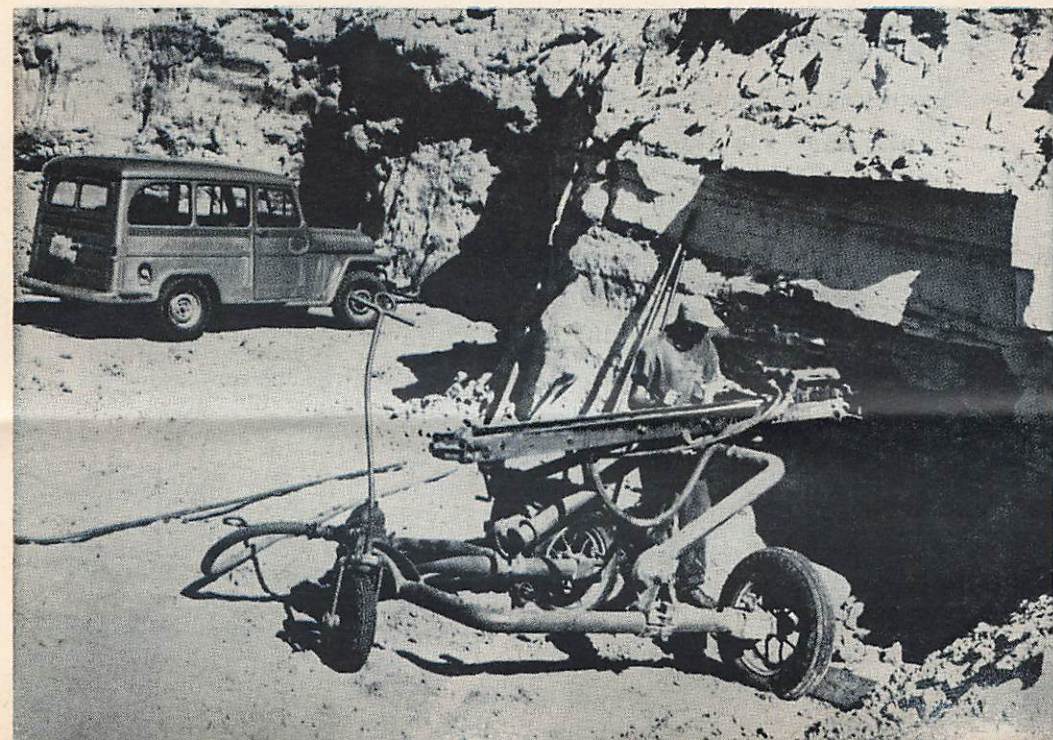
Hite is located on the Colorado River in the area the late novelist Zane Grey once described as the "yellow and purple corrugated world of distance." There are two roads across the desert to Hite, neither exactly recommended (use second gear on

sand stretches, and don't stop). One road meanders north 140 miles from Blanding, and the other 120 miles south from Green River.

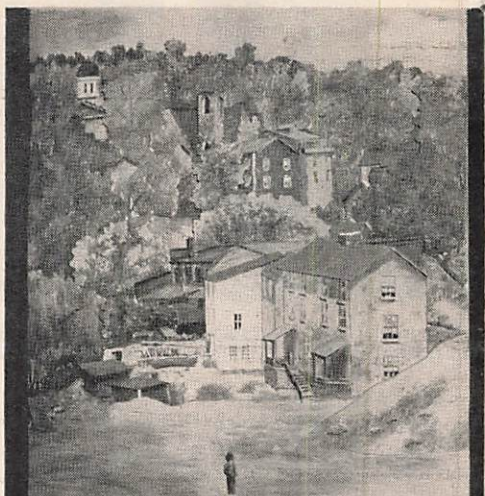
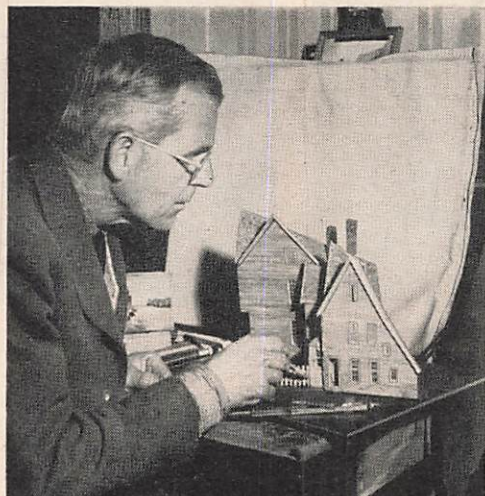
Mostly Hite has been a one-man, or one-man-and-one-woman, town. It was settled in the 1870s by Cass Hite, a former member of Quantrill's Civil War guerrillas. In 1893, Hite started a rumor of a big gold discovery—some think for spite. Prospectors and miners struggled to get equipment, including huge dredges, to the site. You can see some of the stuff weathering there today. There was no gold to speak of. The disappointed—and angry—ones tried to find Hite to lynch him, but he hid out a couple of years till things blew over. In the current century, Hite's population for many years consisted only of Mr. and Mrs. Arthur Chaffin, who operate across the Colorado a

(Continued to page 250)

Uranium miners use air drill to make holes for dynamite charges in making tunnel to area of successful test







### Three-Dimensional Pictures Constructed of Wood

When Carroll P. Ruhl of Baltimore sees something which pleases him, he makes a three-dimensional picture of it—in wood. The finished picture is a realistic relief. Slight projections of the wooden parts give shadows, depth and an illusion of space. Ruhl begins his pictures by sketching against a base board the objects as they

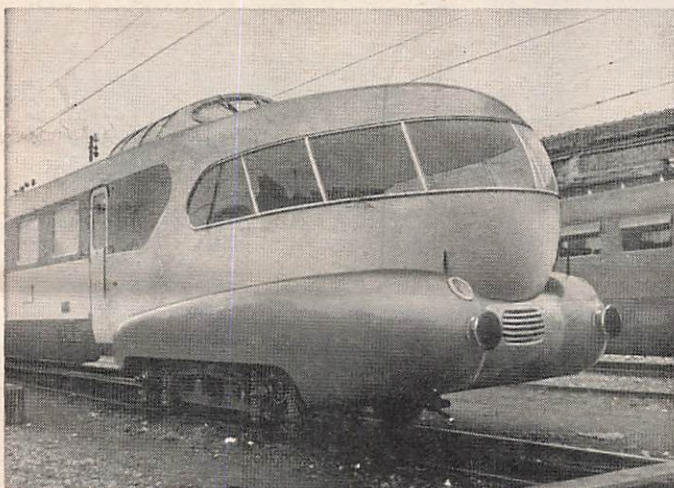
would appear in a flat picture. Then he carves thin pieces of balsa to duplicate objects in the extreme background, gluing them in place on the board. He repeats the process with objects closer to the spectator until the foreground is completed. The finished picture may range from a fraction of an inch to an inch in thickness.

### Radioactive Tritium Is Constant Light Source

By mixing radioactive tritium with stilbene, a crystalline substance, scientists have produced a light source that yields almost constant luminosity and yet has essentially no health hazards. Tritium constantly gives off beta rays which cause the stilbene to fluoresce. The brightness diminishes at a

rate of only about five percent each year, whereas radium-activated sources of the type now used lose half their light in six months. The material provides a constant light for use in calibrating instruments containing phototubes as well as being of value to those who need a constant light source.

### Italian Streamliner Runs Through Initial Tests



Under test in Milan, Italy, a weird-looking electric train goes through its paces. Two disk-shaped bumpers replace the traditional cowcatcher; twin headlights recessed in sweeping front fenders strike an automotive note. Built for the Italian railways, the new train will be placed in regular service soon.

Ⓒ In a test by the Bureau of Mines, a coal-mine explosion was clocked at 5000 miles per hour, or about six times the speed of a jet plane.



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## Everybody's Looking for Uranium

(Continued from page 163)

plank-patched, but sturdy ferry, powered by a Model-A Ford motor. Hite, however, is booming now, and so is the Chaffins' ferry business. The town is near one of the West's richest uranium discoveries—just how rich is a secret.

The ore is an unusual bornite—not like the carnotite which is the most general source of uranium in the area. It is streaked with pitchblende, which is the stuff that has made Shinkolobwe and Eldorado such outstanding producers of uranium. The Vanadium Corporation of America has established a mill there, which is operating around the clock. Employees are all checked by the FBI, visitors are restricted and nobody mentions production figures.

Life has been a little rugged in Hite and in White Canyon, a community rising across the river around an old trading post, but it is rapidly improving. Tents, just as in the days of '49, are the dominating dwellings. Last year the only entertainment was movies shown with a home projector in a cottonwood grove.

In this land touched little by the scientific advances of civilization, the Atomic Energy Commission recently revealed that it was running down other sources of uranium, far underground, with a newly developed "superdivining rod." The instrument is declared to be 10 times as effective as the most powerful Geiger counter.

Technically, the device is called a scintillation probe and detecting circuit. Encased in a 30-inch tube are a special sodium-iodide crystal, a photomultiplier tube and an amplification system. The sodium iodide detects the invisible gamma rays given off by uranium and radium. AEC officials explained that it is most valuable in determining whether the gamma rays come from uranium or other radioactive materials.

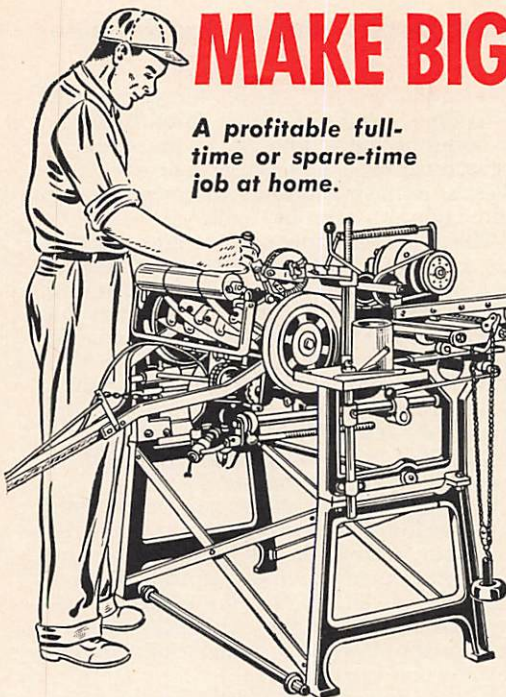
AEC geophysicists have used it on test holes near Blanding up to 200 feet deep, but say that it is good for greater depths. The instrument speeds up the logging of holes as much as 20 times.

Within the last year, the AEC itself has been able to shift somewhat from the theory that "uranium is where you find it" to "uranium is where it ought to be." Data, much of it obtained from oil and mining companies, is being sifted and test holes sunk accordingly.

But AEC officials are quick to add that they are still counting heavily on the individual prospector, including the rank amateur. As one official put it: "Scientifically

(Continued on page 252)





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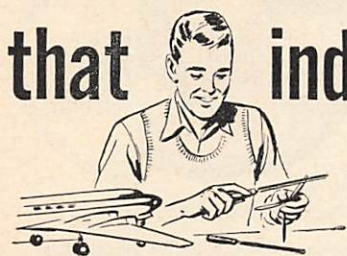


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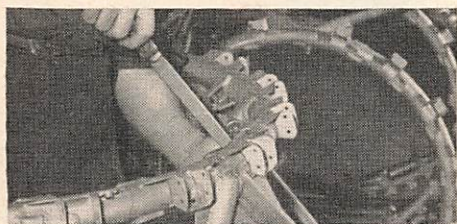
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(Above) B-47 jet bombers being assembled at the Boeing Airplane Company's Wichita plant. (Below) Filing operation on an aluminum-alloy structural part for a Boeing plane in Seattle plant.



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trained persons often don't make the best prospectors. They get too many set ideas. Amateurs are forever going out and accomplishing the unlikely."

To obtain close-up views of some of these amateurs who were engaged in the big uranium rush of '52, we attended one of the several traveling schools on uranium prospecting conducted in Idaho by Prof. Lewis S. Prater of the Idaho State Bureau of Mines at the University of Idaho. The school was held at Salmon, a 4000-population cattle-and-mining town tucked away in the mountains near the state's Primitive Area. Squeezed into the seats of the vocational-agriculture classroom in the high school were 30 or more serious-minded adults. Maybe a fourth women.

In telling these people what to look for, Professor Prater pointed out that uranium has been discovered in more than a hundred different minerals of varying content and color in just about every corner of the world. But right now the AEC is primarily concerned with three—pitchblende, carnotite and autunite.

Pitchblende, the richest known source of uranium, is usually a drab gray in color, shading sometimes to green or brown. It may be earthy, dull or glassy in appearance, is as hard as steel and occurs in veins. Carnotite is canary yellow and relatively soft. It generally occurs as scattered deposits in sandstone beds. Autunite is yellow or apple green. The texture of the mineral is pearly, occurring as micaceous crystals—often as thin coatings.

Uranium is estimated to be probably a thousand times more plentiful than gold, but, unlike gold, it is never found in the earth's crust as a native element. It is always combined with one or more of the other elements to form a mineral.

The United States has worked out agreements to receive all or the bulk of uranium produced in the Belgian Congo, Canada and the Union of South Africa. It is currently seeking similar arrangements with other countries, including Brazil and Mexico. But, in time of war, it would be much handier to have a sufficient supply of uranium produced within the borders of the United States.

In the shadows of Idaho's Primitive Area, we climbed a mountain with Enoch Stewart, 74-year-old retired mining engineer. He had to assist his tall, thin frame up the slopes with a cane. But, finally, standing on a high butte, he gazed across a valley, and waved the cane.

"See that ridge over there?" he asked. "I've got a sneaking suspicion it might have uranium, and before I get much older I aim to go hunting for it." ★ ★ ★



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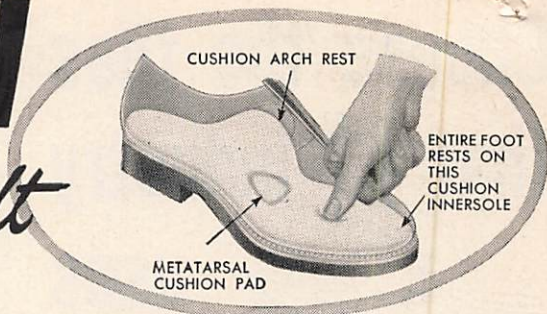
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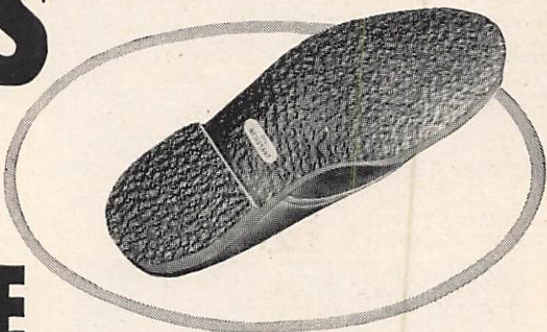


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